



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR IT28 LDR IT-3
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0079205	PCA0020277	PCA0020274
Sample Date		Client Info		08 Apr 2024	04 Feb 2021	11 Jan 2021
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	68	16	52
Chromium	ppm	ASTM D5185m	>20	2	<1	2
Nickel	ppm	ASTM D5185m	>2	2	1	2
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	<1	6
Lead	ppm	ASTM D5185m	>40	2	1	6
Copper	ppm	ASTM D5185m	>330	2	<1	9
Tin	ppm	ASTM D5185m	>15	<1	<1	3
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

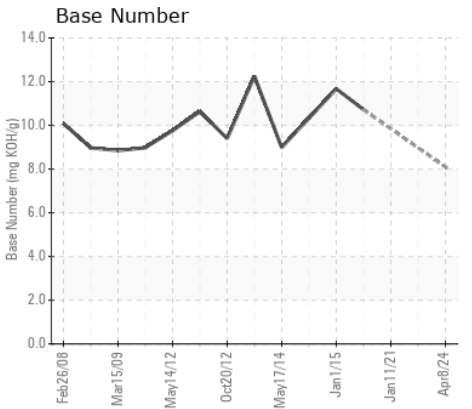
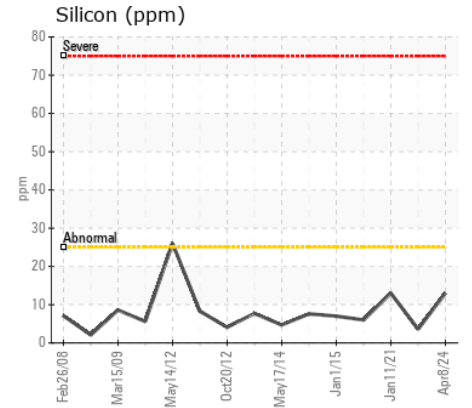
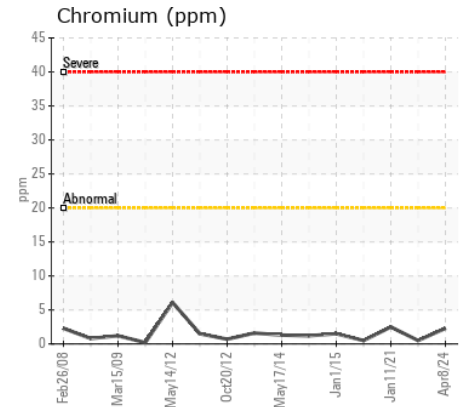
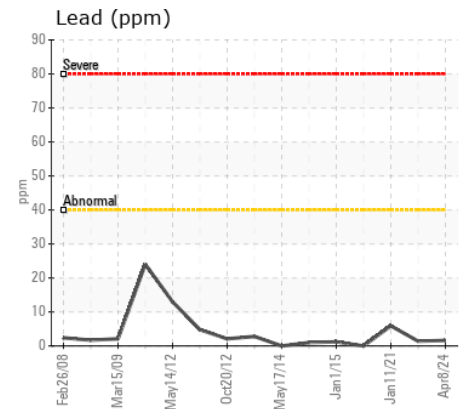
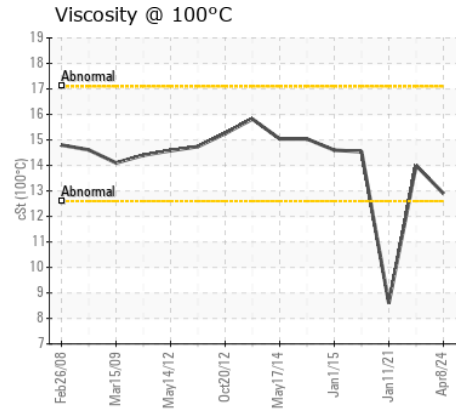
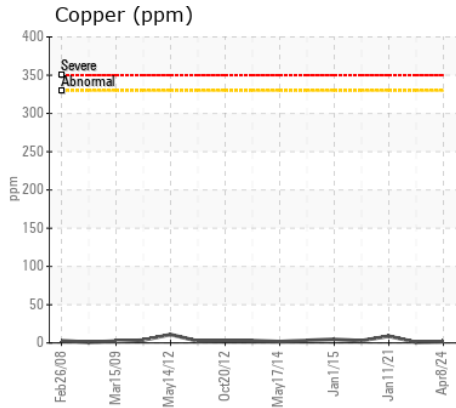
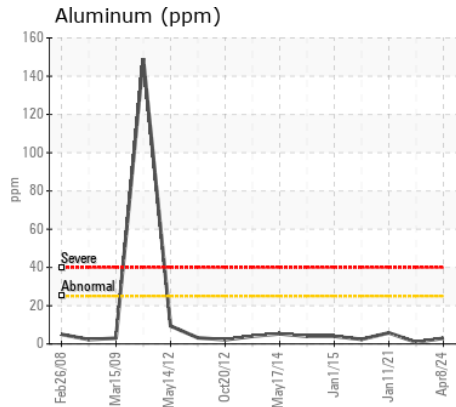
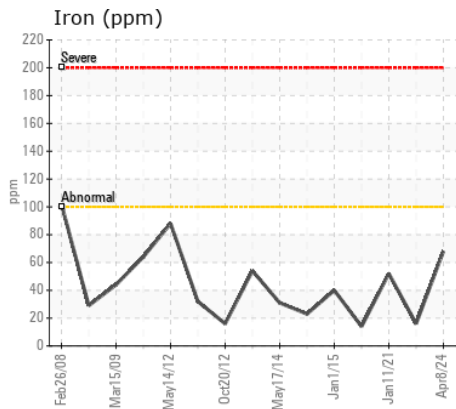
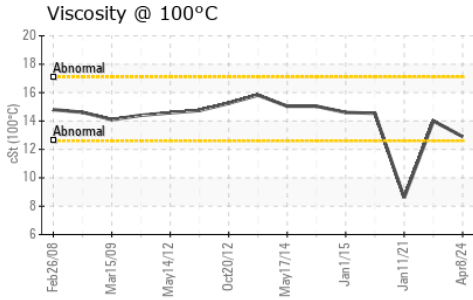
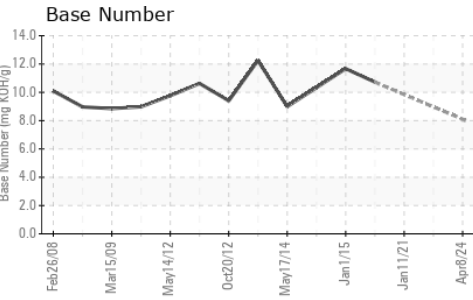
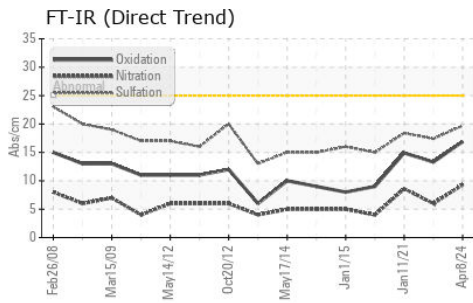
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	13	4	13
Potassium	ppm	ASTM D5185m	>20	3	0	3
Fuel		WC Method	>5	<1.0	1.7	▲ 23.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.5	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.3	6	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	17.4	18.4
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	0.2%	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		7	0	3
Boron	ppm	ASTM D5185m		2	0	2
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		66	58	49
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		908	1025	740
Calcium	ppm	ASTM D5185m		1101	1121	889
Phosphorus	ppm	ASTM D5185m		982	1118	785
Zinc	ppm	ASTM D5185m		1147	1254	919
Sulfur	ppm	ASTM D5185m		3220	3155	1955
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	13.3	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		8.1	---	---
Visc @ 100°C	cSt	ASTM D445		12.9	14.0	▲ 8.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0079205 **Received** : 12 Apr 2024
Lab Number : 06148028 **Tested** : 15 Apr 2024
Unique Number : 10978106 **Diagnosed** : 15 Apr 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

BORGAARD CONSTRUCTION
 70 CREEPER HILL RD
 NORTH GRAFTON, MA
 US 01536
 Contact: BILL PECKAM
 billpeckam@borgaard.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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